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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/832,825	04/12/2001	Kazunori Kaneda	Q64042	1925

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EXAMINER	
FISCHER, JUSTIN R	
ART UNIT	**PAPER NUMBER**
1733	

DATE MAILED: 01/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/832,825	KANEDA, KAZUNORI	
	Examiner	Art Unit	
	Justin R Fischer	1733	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 December 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2,16 and 19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *2,16 and 19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 2 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukuhara (JP 2000-17115, of record). Fukuhara (Page 2, Paragraphs 6-9 and Page 4, Paragraph 13 of machine translation) is directed to a pneumatic tire construction in which a tire belt layer or squeegee rubber composition layer has the following composition: 0.1-0.3 parts by weight of a cobalt atom (in the form of a cobalt salt of an organic acid), 3-8 parts by weight of sulfur, and 0.5-20 parts by weight of hydrotalcite (carbonate of aluminum and magnesium). It is emphasized that the claims as currently drafted ("comprising a rubber composition") do not exclude the presence of reinforcing elements in the squeegee rubber composition layer and as such, the belt layer in the example of Fukuhara is seen to constitute a squeegee rubber composition layer. As to the adjoining composite layer, it is extremely well known that a carcass structure represents a fundamental component of modern day tires- one of ordinary skill in the art at the time of the invention would have recognized that the tire of Fukuhara includes a carcass structure that adjoins the above noted belt layer. Lastly, in regards to the type of tire, Fukuhara generally teaches a rubber composition for a cord reinforced tire component in order to obtain improved adhesion between said cord and the

surrounding rubber. One of ordinary skill in the art at the time of the invention would have found it obvious to use the rubber composition of Fukuhara to make a wide variety of tires, including a truck tire, a bus tire, and an off-road tire, since the above noted benefits are desired in all tires. It is particularly noted that the claimed tire constructions are all recognized as containing steel cord reinforcement due to the larger stresses that are experienced, further suggesting that one of ordinary skill in the art at the time of the invention would have found it obvious to include the adhesion promoting rubber composition of Fukuhara in the claimed tire constructions.

Regarding claim 19, Fukuhara states that the relevant rubber composition contains natural rubber and/or synthetic polyisoprene in an amount of 50 phr or more (Page 2, Paragraph 6).

3. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fukuhara as applied in claim 2 above and further in view of Kobayashi (US 5,965,640, of record), Nosu (US 5,464,896, of record), and the Admitted Prior Art (Page 5, Lines 13-15).

As previously stated, Fukuhara teaches a tire construction comprising a composite layer (carcass) and an adjacent squeegee rubber (belt) containing a hydrotalcite reinforcing material. The reference, however, is silent as to what specific type of hydrotalcite is used. In any event, one of ordinary skill in the art at the time of the invention would have found it obvious to use hydrotalcite in which the crystal water has been removed since such a material is commonly used in a wide variety of industries. For example, Kobayashi (Column 13, Lines 5-10) and Nosu (Column 2, Line

42 – Column 3, Line 15) illustrate the extensive use of hydrotalcite in which the crystal water had been removed, it being particularly noted that Kobayashi is directed to the use of such a material in a rubber composition. Also, the Admitted Prior Art discloses that the claimed hydrotalcite was purchased from Kyowa Chemical Industry, Co., Ltd, further suggesting that hydrotalcite with crystal water removed was a well known material prior to the date of the claimed invention. As such, one of ordinary skill in the art at the time of the invention would have found it obvious to use hydrotalcite having no crystal water in the squeegee rubber composition of Hashimoto. Lastly, applicant has not provided a conclusive showing of unexpected results to establish a criticality for the use of such a hydrotalcite.

4. Claims 2 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mori (JP 08027333, newly cited) and further in view of Fukumoto (JP 61060302, newly cited) or, in the alternative, over Fukumoto and further in view of Mori. Mori (Abstract and Paragraphs 13-15) is directed to a pneumatic tire construction in which the innerliner or squeegee rubber composition layer is formed of an isoprene copolymer (100 phr), hydrotalcite (0.1-30 phr), and a crosslinking agent, such as sulfur (1-30 phr). Furthermore, while not expressly disclosed by Mori, it is well recognized that a carcass structure represents a fundamental tire component that is adjacent the innerliner layer. Additionally, it is well recognized that steel reinforcing elements represent one of the most well known and extensively used materials in the manufacture of a carcass structure due to their high strength properties. Thus, the reference is only devoid of a teaching in regards to the inclusion of a cobalt salt of an organic acid. However, it is

known to include a cobalt salt of an organic acid in an innerliner composition in order to improve adhesion between the steel cords and the rubber that define the adjacent carcass structure, as shown for example by Fukumoto (Abstract). In this instance, Fukumoto suggests that the cobalt salt is included in an amount between 0.5-5 phr (fully encompasses claimed range of 0.1-0.3 in terms of cobalt atom). As such, one of ordinary skill in the art at the time of the invention would have found it obvious to include said cobalt salt in the innerliner of Mori. As to the type of tire, one of ordinary skill in the art at the time of the invention would have found it obvious to use the innerliner of Mori in a wide variety of tires, including a bus tire, a truck tire, and an off-road tire, since the above noted benefits are desired in all tires. Lastly, Fukumoto expressly depicts the adjoining relationship between the innerliner and the carcass structure.

Alternatively, Fukumoto is directed to a pneumatic tire construction in which an innerliner 5b or squeegee rubber layer adjoins a carcass structure 4 or composite layer formed of steel cords, wherein said innerliner is formed with between 2 and 8 phr of sulfur and between 0.5 and 5 phr of a cobalt salt of an organic acid (Abstract). Thus, the reference is only devoid of a teaching in regards to the inclusion of hydrotalcite. Mori, on the other hand, recognizes the use of hydrotalcite (0.1-30 phr) in an innerliner composition in order to obtain, among other things, high resistance to scorching. As such, one of ordinary skill in the art at the time of the invention would have found it obvious to include hydrotalcite in the innerliner composition of Fukumoto. In regards to the type of tire, one of ordinary skill in the art at the time of the invention would have found it obvious to form the tire of Fukumoto as a wide variety of tires, including a bus

tire, a truck tire, and an off-road tire, since the above noted benefits are desired in all tires. In regards to the composition detailed by claim 19, multiple examples of Fukumoto include at least 50 phr of natural rubber (Table 1).

5. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over either one of (a) Mori in view of Fukumoto or (b) Fukumoto in view of Mori, as applied in claim 2 above, and further in view of Kobayashi, Nosu, and the Admitted Prior Art (Page 5, Lines 13-15).

Regarding the hydrotalcite, Mori is silent as to the specific type of hydrotalcite. In any event, one of ordinary skill in the art at the time of the invention would have found it obvious to use hydrotalcite in which the crystal water has been removed since such a material is commonly used in a wide variety of industries. For example, Kobayashi (Column 13, Lines 5-10) and Nosu (Column 2, Line 42 – Column 3, Line 15) illustrate the extensive use of hydrotalcite in which the crystal water had been removed, it being particularly noted that Kobayashi is directed to the use of such a material in a rubber composition. Also, the Admitted Prior Art discloses that the claimed hydrotalcite was purchased from Kyowa Chemical Industry, Co., Ltd, further suggesting that hydrotalcite with crystal water removed was a well known material prior to the date of the claimed invention. As such, one of ordinary skill in the art at the time of the invention would have found it obvious to use hydrotalcite having no crystal water in the squeegee rubber composition of Hashimoto. Lastly, applicant has not provided a conclusive showing of unexpected results to establish a criticality for the use of such a hydrotalcite.

Response to Arguments

6. Applicant's arguments with respect to claims 2, 16, and 19 have been considered but are moot in view of the new ground(s) of rejection. As to the Declaration under 37 CFR 1.132, the rejection under 35 USC §103 with Hashimoto has been withdrawn in light of the amendment submitted on December 21, 2004 and as such, the contents of said declaration are not related to the rejection set forth above.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Justin R Fischer** whose telephone number is **(571) 272-1215**. The examiner can normally be reached on M-F (7:30-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Blaine Copenheaver can be reached on (571) 272-1156. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Justin Fischer

January 11, 2005

JEFF H. AFTERGUT
PRIMARY EXAMINER
GROUP 1300